

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ03/00064

A. CLASSIFICATION OF SUBJECT MATTERInt. Cl. ⁷: D06F 33/02, 37/00, 39/08; A47L 15/42; C02F 1/42; G01V 8/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Derwent World Patent Index: D06F 33/-, 37/-, 39/-, B01J 49/-, G01V 8/12, 8/16, 8/24; A47L 15/- & keywords

1) salt, brine, sodium, potassium, chloride, saline, resin, ion, exchange, regenerate and similar terms

2) salt, brine, sodium, potassium, chloride, saline detect, indicate, sense, evidence, and similar terms

3) drawer, top, slide, cabinet, soft, hard, decalcify calcify and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | EP 855164 A1 (ESSWEIN SA) 29 July 1998 Whole document | 1-5, 10, 11, 20-25 |
| Y | | 18, 19, 33- 36 |
| X | EP 741991 B1 (WRAP S.p.A.) 14 November 2001 Columns 6-8 | 1-11, 20-25 |
| Y | | 18, 19, 33- 36 |
| X | EP 517205 B1 (AWECO KUNSTSTOFFTECHNIK GERAETEBAU GmbH & CO KG) 30 August 1995 Whole document | 1-5, 10, 20- 25 |
| Y | | 18, 19, 33- 36 |

☒ Further documents are listed in the continuation of Box C☒ See patent family annex

| | | | |
|----------|---|-----|--|
| * "A" | Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance | "T" | later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention |
| "B" | earlier application or patent but published on or after the international filing date | "X" | document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone |
| "L" | document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) | "Y" | document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art |
| "O" | document referring to an oral disclosure, use, exhibition or other means | "&" | document member of the same patent family |
| "P" | document published prior to the international filing date but later than the priority date claimed | | |

Date of the actual completion of the international search
27 June 2003

Date of mailing of the international search report

03 JUL 2003

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|--|------------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | DE 3209501 A (BOSCH-SIEMENS HAUSGERATE GmbH) 6 October 1983 Figure 1 | 1, 7-10 |
| X Y | DE 3544580 C1 (BOSCH-SIEMENS HAUSGERATE GmbH) 19 June 1987 Whole document | 1, 6 6 |
| X Y | FR 2580165 A (BOSCH-SIEMENS HAUSGERATE GmbH) 17 October 1986 Whole document | 1, 6 6 |
| X | DE 2851541 A (LICENTIA PATENT-VERWALTUNGS GmbH) 12 June 1980 Whole document | 1-5, 10, 11, 20-25 |
| X | DE 4135820 A1 (BOSCH-SIEMENS HAUSGERATE GmbH) 6 May 1993 Whole document | 1-5, 10, 11, 20-25 |
| P, X | US 2002/0149489 A1 (BEARAK) 17 October 2002 Paragraphs 0036, 0043-0044 | 11-19, 26-32, 37-38 |
| X, Y | EP 919178 A2 (T & P S.p.A.) 2 June 1999 Whole document | 11-19, 26-32, 37-38 |
| X, Y | FR 2615617 A1 (ESSWEIN SA) 25 November 1988 Whole document | 11-19, 26-32, 37-38 |
| X, Y | DE 2911366 A1 (LICENTIA PATENT-VERWALTUNGS GmbH) 2 October 1980 Whole document | 11-19, 26-32, 37-38 |
| Y | WO 01/26532 A1 (FISHER & PAYKEL LIMITED) 19 April 2001 Whole document | 6, 18, 19, 33- 36 |
| P, Y | FR 2825176 A1 (CLOVIS) 29 November 2002 Whole document | 11-19, 26-32, 37-38 |
| Y | JP 09005021 A (MITSUBISHI CABLE IND LTD) 10 January 1997 Whole document | 11-19, 26-32, 37-38 |

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PCT/NZ03/00064**Box I Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos :
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos :
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos :
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box II Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

See attached sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No: II

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are different inventions as follows:

1. Claims 1-10 are directed to a washing appliance and claims 20-25 are directed to a water softener, respectively, with the regeneration of the resins in accordance with a duty cycle selected in accordance with the supply water hardness comprising the first "special technical feature";
2. Claims 11-19 are directed to a washing appliance, claims 26-32 to a water softener, and claims 37-38, & 39 are directed to a salt absence indicator, with the salt absence indicator comprising the second "special technical feature"; and,
3. Claims 33-36 - a washing appliance comprising a water supply system as defined in claim 33, with the features of claim 33 comprising the third "special technical feature".

Since the abovementioned groups of claims do not share any of the technical features identified, a "technical relationship" between the inventions, as defined in PCT rule 13.2 does not exist.

It is noted that claims 1-19 & 20-32 include a common concept of the regeneration of the resins in accordance with a duty cycle selected in accordance with the supply water hardness as defined in claim 1 and/or 20. However this feature is not novel in the light of many documents of which the following is a selection:

1. DE 19960307 (BSH BOSCH & SIEMENS HAUSGERAETE GMBH)
2. DT 2851541 (LICENTIA PATENT GMBH)
3. EP 517205 (AWECO KUNST GERAETEBAU GMBH & CO KG)
4. EP 741991 (WRAP S.p.A)

Accordingly this common feature cannot constitute a special technical feature as defined in PCT Rule 13.2 since it does not make a contribution over the prior art listed above.

Claims 11 and 26 introduce the additional feature of the salt absence indicator. This is considered to constitute, prima facie, a "special technical feature" distinguishing the invention of these claims from that in claims 1 and 20.

Thus, the international application does not relate to one invention or to a single inventive concept, a posteriori.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | Patent Family Member | | | | | |
|--|-------------|----------------------|-------------|----|-----------|----|---------|
| EP | 855164 | FR | 2758742 | | | | |
| EP | 741991 | IT | 950360 | | | | |
| EP | 517205 | DE | 4118586 | | | | |
| DE | 3209501 | NONE | | | | | |
| DE | 3544580 | FR | 2591463 | | | | |
| FR | 2580165 | IT | 1191712 | | | | |
| DE | 2851541 | FR | 2442619 | IT | 1127642 | | |
| DE | 4135820 | NONE | | | | | |
| US | 2002/149489 | WO | 2002/084230 | | | | |
| EP | 919178 | US | 6527958 | | | | |
| FR | 2615617 | NONE | | | | | |
| DE | 2911366 | NONE | | | | | |
| WO | 01/26532 | AU | 200079733 | BR | 200014606 | CA | 2386853 |
| | | EP | 1220636 | NZ | 500167 | | |
| FR | 2825176 | NONE | | | | | |
| JP | 09/005021 | NONE | | | | | |
| | | | | | | | |
| END OF ANNEX | | | | | | | |